Chapter 1
PURPOSE AND NEED FOR ACTION

CHAPTER 1 – PURPOSE OF AND NEED FOR ACTION

Document Structure

The U.S. Department of Agriculture, Forest Service (Forest Service) has prepared this Final Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This EIS discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives for the Big Thorne Project. The document is organized into four chapters:

- *Chapter 1. Purpose of and Need for Action:* The chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Chapter 2. Alternatives, including the Proposed Action:* This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for meeting the stated purpose and need. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Chapter 3. Affected Environment and Environmental Consequences*: This chapter discloses the environmental effects of implementing the proposed action and other alternatives. This analysis is organized with the four issues examined in detail presented first, followed by other resources for which effects may occur.
- *Chapter 4. References and Lists:* This chapter provides a list of preparers, the distribution list for the EIS, a glossary, and references used in EIS development. The last section of this chapter is an index.
- *Appendices:* The appendices provide more detailed information to support the analyses presented in the environmental impact statement.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Thorne Bay Ranger District.

Background

On September 17, 2008, the Under Secretary of Agriculture for Natural Resources and Environment directed the Forest Service to develop a work plan and proposed budget necessary to offer four 10-year timber sales, each with the capability of providing an average annual harvest of 15 to 20 million board feet (MMBF) per year for 10 years. The Chief's reply to the Under Secretary identified five areas that could meet the requirements

for a 10-year timber sale. Prince of Wales Island was among those areas listed, and the Big Thorne Project is one of the first two of these larger scale projects under study.

A Project Plan for the Big Thorne Project was completed in April 2010 in response to the above direction. The Forest Supervisor reviewed the Big Thorne Project Plan and determined that the proposed project is feasible to prepare, that it will be consistent with the 2008 Tongass National Forest Land and Resource Management (Forest Plan), and that further investment of resources and capital is warranted.

After the Project Plan was completed, changes occurred to the timber industry and management of the Tongass timber program. These included the shift from three mid-sized mills to one mid- sized mill and many smaller mills, a transition strategy to young-growth forest management and more emphasis on the use of stewardship contracting. For these reasons, the proposed action was designed to be more flexible as a "…multi-year timber sale component of a larger stewardship effort that will include opportunities such as restoration and enhancement activities that will be identified through other environmental analyses."

The proposed action was developed and public scoping began in February 2011. To respond to the comments on this project, continuing emphasis on the transition to the young-growth harvest, and the court decision that vacated the exemption to the 2001 Roadless Rule, alternatives were developed to the proposed action. This included adding commercial thinning of young-growth timber to the alternatives. The proposed action and the alternatives to the proposed action are described in Chapter 2.

Project Area

Prince of Wales Island is one island among a group or chain of islands in the southeastern Alaska panhandle known as the Alexander Archipelago. At approximately 2,577 square miles, Prince of Wales Island is one of the largest islands in the United States—third in size only to Hawaii (the Big Island) and Kodiak Island, AK—and is about the size of the State of Delaware.

The Big Thorne project area encompasses roughly 232,000 acres of north Prince of Wales Island in Southeast Alaska near Thorne Bay and Coffman Cove. The elevation ranges from sea level to over 3,000 feet (Figure 1-1). Annual precipitation may exceed 100 inches, with the highest rainfall occurring during October and the lowest in June. Individual storms vary dramatically and can produce intense rainfall and high winds.

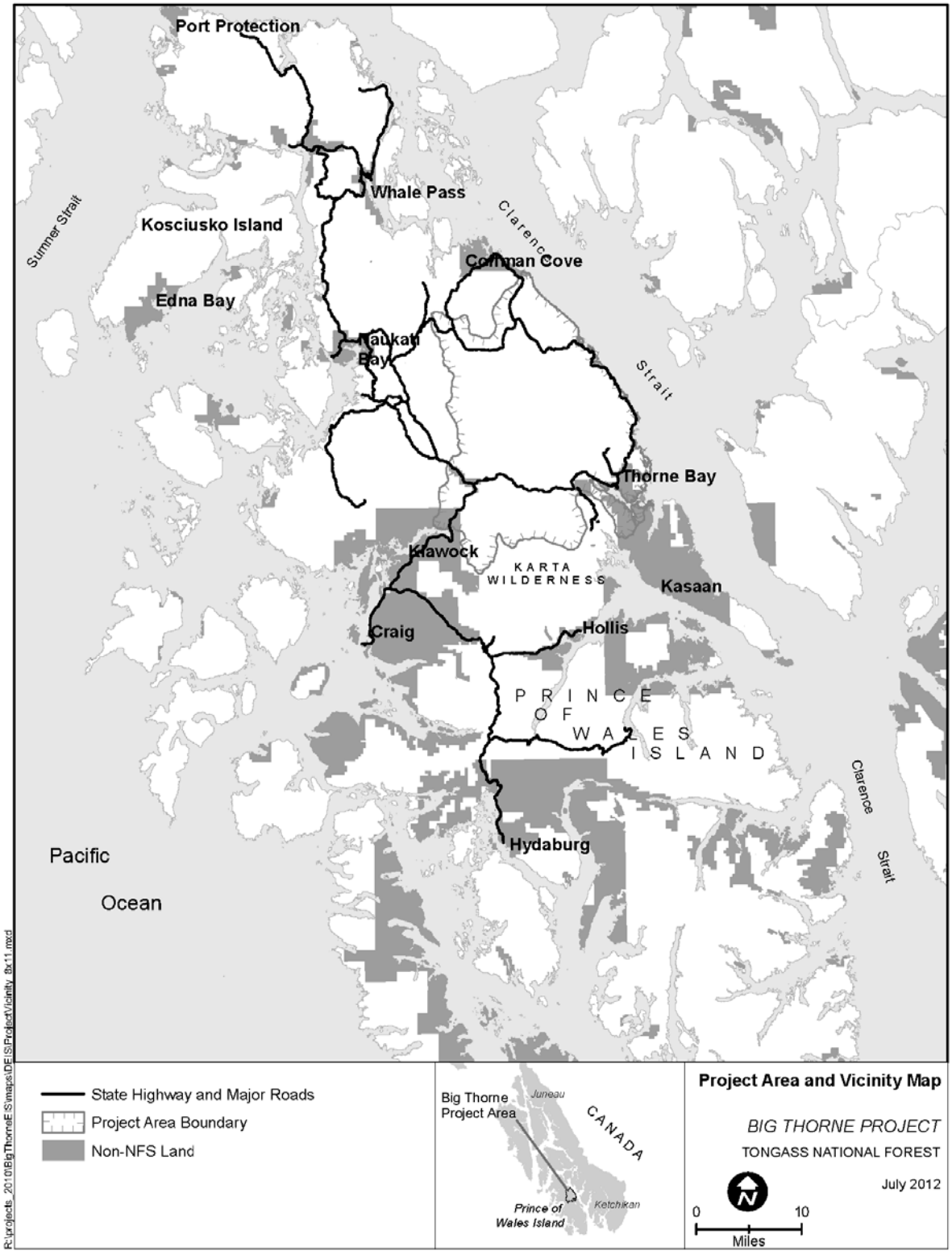

Figure 1-1. Project Area and Vicinity Map

1 Purpose and Need

The Tongass National Forest including Prince of Wales Island is covered primarily by temperate rainforest consisting of Sitka spruce and western hemlock, with lesser amounts of mountain hemlock, western redcedar, Alaska yellow-cedar, and lodgepole pine. Red alder is locally abundant. The majority of the forest is old-growth forest (older than 150 years), but about 33 percent of the productive forest land in the project area is in young-growth forest, mostly the result of past timber harvest. The project area includes approximately 48,477 acres mapped as forest land that are suitable for timber production, including 22,387 acres of old-growth and 26,090 acres of young growth. Forest regeneration is rapid after timber harvest and most logged areas in the project area are covered by dense stands of 10- to 50-year-old trees.

Purpose and Need for Action

The purpose and need for the Big Thorne Project is to contribute to a long-term supply of economic timber for the timber industry on Prince of Wales Island and on the Tongass National Forest in general (including both large and small operators), in a manner that is consistent with the multiple-use goals and objectives of the Tongass Land and Resource Management Plan (Forest Plan). This would contribute to the timber supply that would help sustain the current timber industry while transitioning to a sustainable forest industry based on young-growth management. The purpose for the project and its underlying need are described in greater detail in the following subsections. The detailed rationale for scheduling a large sale in the Big Thorne project area is presented in Appendix A of this EIS.

Purpose

The purpose of a project can be defined in terms of the goal(s) and objective(s) to be achieved. The Forest Plan (USDA Forest Service 2008a) contains multiple-resource goals and objectives, including timber management for commercial use, and defines the desired conditions to be attained through the multiple-use goals and objectives (see USDA Forest Service 2008a, especially Chapter 2). It is the purpose of this project to implement Forest Plan direction and work toward achieving its goals and objectives, including, but not limited to, the following:

Timber—Goal (USDA Forest Service 2008a, 2-7)

- Provide for the continuation of timber uses and resources by the timber industry and Alaska residents.

Timber—Objectives (USDA Forest Service 2008a, 2-7)

- Seek to provide an economic timber supply sufficient to meet the annual market demand for Tongass National Forest timber, and the market demand for the planning cycle, up to a ceiling of this Plan's allowable sale quantity, which is 2.67 billion board feet in the first decade.
- Provide 2-3 years supply of volume under contract to local mills and then establish shelf volume to maintain flexibility and stability in the sale program.

- Review the timber sale program and work with State and other partners to implement changes that will keep an "economic timber" perspective throughout the process and monitor the implementation of these reforms to ensure they are consistently employed across the Forest.

Local and Regional Economy—Goal (USDA Forest Service 2008a, 2-5)

- Provide a diversity of opportunities for resource uses that contribute to the local and regional economies of Southeast Alaska.

Local and Regional Economy—Objective (USDA Forest Service 2008a, 2-5)

- Support a wide range of natural resource employment opportunities within Southeast Alaska communities.

Need

The Forest Service is under national direction to provide for multiple use of the national forests (Organic Administration Act of 1897, Multiple-Use Sustained Yield Act of 1960, and National Forest Management Act [NFMA] of 1976). In addition, the Tongass National Forest, specifically, is directed under the Tongass Timber Reform Act (TTRA) to seek to provide a supply of timber that meets market demand annually and for the planning cycle. The Forest Plan, which was prepared under the direction of NFMA, was amended in 2008 and incorporates this direction.

The Big Thorne Project is proposed at this time to respond to the underlying need for a reliable, economic, and long-term timber supply, as well as to respond to the goals and objectives identified for the project area by the Forest Plan and move the project area toward the desired condition described in the Forest Plan (see Appendix A to this EIS and pages 2-1 and 2-2 of the Forest Plan). In recent years, Southeast Alaska and, more locally, the Prince of Wales Island area have experienced a significant decline in manufacturing and natural resource employment. This decline has been mirrored by a decline in sawmill industry production and harvest levels. Therefore, an underlying need exists for a reliable economic supply of sawtimber for Southeast Alaska mills to help support the timber industry and employment through the transition years until the industry can switch to a stable supply of young growth.

Given the relevant Forest Plan goals and objectives, the interdisciplinary team (IDT) found, based on analysis of existing conditions in the project area, that the roaded landscape, tree species composition, and tree quality provides opportunity for economic timber harvest. Further, because of its central location on the Prince of Wales Island road system, the Big Thorne project area has economic transportation connections to the largest active sawmill and one of the highest concentrations of small sawmill operators in Southeast Alaska.

Proposed Action

The proposed action is defined early in the planning process. It serves as a starting point for the IDT and gives the public and other agencies specific information on which to focus comments. Using these comments and information from preliminary analysis, the IDT develops alternatives to the proposed action, which are described in detail in Chapter 2.

1 Purpose and Need

The proposed action for the Big Thorne Project is to harvest timber using a variety of prescriptions on approximately 5,121 acres of forested lands using various sizes of timber sales, offered over multiple years, within the roaded land base on Prince of Wales Island. Approximately 32 miles of National Forest System (NFS) and temporary roads would be constructed and about 18 miles of existing stored roads would be reconstructed.

An estimated 105 MMBF of sawtimber and 16 MMBF of utility could be made available to industry for harvest. This proposal would include timber harvest of approximately 593 acres (13 MMBF) in Phase 2 lands of the Tongass Timber Sale Program Adaptive Management Strategy, which would be managed in accordance with Forest Plan direction (see subsection titled Timber Sale Program Adaptive Management Strategy later in this chapter). The proposed Phase 2 lands are all outside of 2001 inventoried roadless areas. Existing log transfer facilities would be used as needed. Harvest would include helicopter, ground-based, and cable yarding systems using even-aged and uneven-aged harvest prescriptions to achieve stand objectives. All proposed activities would meet the standards and guidelines of the Forest Plan (USDA Forest Service 2008a).

Decision Framework

Based on the environmental analysis in this EIS and in accordance with Forest Plan goals, objectives, and desired conditions, the Tongass Forest Supervisor will decide whether to make timber available from the Big Thorne Project and the design and location of timber harvest units, as well as road construction and reconstruction. The decision will include, but is not limited to, the following items:

- the estimated timber volume to make available from the project, as well as the location, and design of timber harvest, road construction and reconstruction, and silvicultural practices used;
- road management objectives for all roads in the project area;
- any necessary project-specific mitigation measures and monitoring requirements;
- whether or not to enter Phase 2 areas for small sales;
- whether or not to modify small old-growth reserves (OGRs) within the project area, which would require a Forest Plan amendment; and
- whether there may be a significant possibility of a significant restriction on subsistence uses.

Public Involvement

Public involvement is a key component of the planning process. The following paragraphs describe the public involvement activities that have occurred for the project area analysis.

Scoping

The Council on Environmental Quality (CEQ) defines scoping as “an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action” (40 Code of Federal Regulations [CFR]

1501.7). Among other things, the scoping process is used to invite public participation, to help identify public issues, and to obtain public comment at various stages of the environmental analysis process. Scoping begins early and is a process that continues until a decision is made.

The following is a summary of the letters, contacts, and meetings that have taken place during the planning of this project:

- April 1, 2010: Project first listed in the 3rd quarter of the Schedule of Proposed Actions for the Tongass National Forest.
- February 9, 2011: Scoping letter describing the proposed action, preliminary issues, possible alternatives, NEPA schedule, and the location and timing of scoping meetings was mailed to over 400 individuals, groups, and agencies. The 22 responses to this mailing, plus comments received during the scoping meetings, identified a range of issues and concerns.
- February 11, 2011: Notice of Intent to prepare an EIS published in the Federal Register (Vol. 76, No. 29).
- February 28 to March 3, 2011: Open house scoping meetings were held in Thorne Bay, Naukati, Coffman Cove, and Craig. The project background, proposed action, unit pool, and resource information was presented.
- 2010-2012: Informal meetings with individuals from the public or stakeholder groups.

Consultation with Federally Recognized Tribal Governments and Tribal Corporations

The following Federally recognized tribal governments and organizations have been consulted about this project:

- Central Council of the Tlingit and Haida Indian Tribes of Alaska
- Craig Community Association (CCA)
- Klawock Cooperative Association (KCA)
- Hydaburg Cooperative Association (HCA)
- Organized Village of Kasaan (OVK)
- Wrangell Cooperative Association (WCA)
- Ketchikan Indian Community
- Haida Corporation
- Kavilco, Inc.
- Klawock-Heenya Corporation
- Sealaska Corporation
- Shaan-Seet, Inc.

Tribal governments and organizations have not expressed any concerns about the Big Thorne Project during discussions to date. Regular consultation will continue during the planning of this project and beyond.

Other Agency Involvement

The Forest Service is committed to working closely with other agencies at all stages of planning and is responsible for coordinating project reviews by several other agencies. In some cases, the reviews are required because another agency has the authority to issue permits for a specific activity proposed by the Forest Service. In other cases, the reviews provide a time for dialogue with agencies responsible for ensuring that certain environmental conditions are met, such as clean water or healthy wildlife populations. This interagency communication helps provide information about area resources. This information is used to meet laws and regulations, develop alternatives and to identify ways to avoid or mitigate environmental effects. In many cases, an ongoing professional dialogue is maintained with these agencies throughout the planning process.

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) provides a general review in accordance with their responsibilities under NEPA, Section 309 of the Clean Air Act, and Section 402 of the Clean Water Act.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (Corps) is responsible for approving proposals to dredge or place fill materials in the coastal waters of the United States under Section 404 of the Clean Water Act. The Corps also has administrative authority over activities associated with wetlands. Any road construction in wetlands is of interest to the Corps and the Forest Service must consider and reduce effects on those areas.

A 404 permit from the Corps is not necessary because roads constructed as part of this project are for silvicultural purposes and will follow the 33 CFR 323 guidelines and State-approved Best Management Practices (BMPs) to avoid and minimize impacts to wetlands.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) administers the Endangered Species Act. The Forest Service has ongoing consultation with the USFWS to determine if the proposed project will affect threatened or endangered species.

National Marine Fisheries Service

The National Marine Fisheries Service (NMFS) has jurisdiction over threatened or endangered marine life and for all anadromous salmon. The Forest Service consults with NMFS concerning possible effects to these species.

State of Alaska

Consultation between the Forest Service and the various State agencies has existed before the Forest Plan and continues to evolve and expand. Agency cooperation involves fish passage relating to Title 16, concurrence with the State Historic Preservation Officer (SHPO) regarding the results of heritage surveys, interagency review of old-growth reserve modifications, monitoring of the best management practices (BMPs) for the protection of soil and water resources and other topics as needed

The State of Alaska (State) participated as a cooperating agency in all phases of the planning process for the 2008 Forest Plan Amendment under a Memorandum of Understanding (MOU) signed in 2006. After which, the Forest Service and the State found it desirable to continue their relationship to promote effective and coordinated implementation of the Forest Plan (ROD, 2008 Forest Plan, page 63). The State entered into two MOUs with the Tongass National Forest in March 2009 (08MU-11100500-109; 08MU-11100500-110) to establish and promote a framework of cooperation between the Tongass and the State in implementing the Forest Plan and related environmental analyses and work associated with managing the land and resources of the Tongass; recognizing the responsibilities for both agencies in relation to the Forest Service management programs

Several departments of the State of Alaska were asked to participate in the planning of the Big Thorne project. They provided general comments and suggestions, as well as specific reviews. These departments include the following:

Alaska Department of Environmental Conservation

The Alaska Department of Environmental Conservation (ADEC) participates in cooperative water quality management through Section 319 of the Clean Water Act and a Memorandum of Agreement with the Forest Service. ADEC also issues a certificate of compliance with Alaska Water Quality Standards under Section 401 of the Clean Water Act for log transfer facilities.

Alaska Department of Fish and Game

The Alaska Department of Fish and Game (ADF&G) and the Forest Service have an MOU to reach concurrence prior to conducting any instream activities. A Title 16 concurrence must be reached before any work occurs below the ordinary high water for fish-bearing water bodies that will use, divert, obstruct, pollute, or change the natural flow or bed of water bodies.

An MOU is also in place between ADF&G and the Forest Service that covers wildlife research and monitoring and fisheries stream classification programs.

The ADF&G is especially interested in stream activities and other fish, water, wildlife, and subsistence issues. Discussions focused on wildlife habitat in regards to this project have occurred between representatives from the ADF&G and the Forest Service. ADF&G staff participated in issue identification and alternative development during a 3-day Forest Service IDT meeting for this project.

Alaska Department of Natural Resources

The Alaska Department of Natural Resources (ADNR) Division of Forestry assisted in reconnaissance and consultation with the Big Thorne IDT regarding economic timber harvest. The ADNR issues tideland permits and the lease or easement necessary for the log transfer site. ADNR staff participated in issue identification and alternative development during a 3-day Forest Service IDT meeting for this project.

Office of Project Management and Permitting

The Office of Project Management and Permitting office provides overall coordination for the State's comments for large projects.

Alaska Office of History and Archeology

The Forest Service archeologist determined that no historic properties will be affected by any of the proposed alternatives. Under the terms of the existing Programmatic Agreement with the Alaska State Historic Preservation Officer and the Advisory Council on Historic Preservation (USDA Forest Service 2010a), "the Forest may proceed with the undertaking in lieu of a consensus determination of eligibility pursuant to 36 CFR 800.4."

Availability of the Draft EIS

The Notice of Availability for the Draft EIS was published in the Federal Register on October 26, 2012, starting the 45-day public comment period. A legal notice was also published on October 26, 2012, in the Ketchikan Daily News, the official newspaper of record. The Draft EIS was also mailed to Federal and State agencies, native and municipal offices, and to others who requested it. A list of recipients is included in Chapter 4 of the Draft EIS. The Draft EIS was also available at the Thorne Bay Ranger District and in public libraries throughout Southeast Alaska.

Analysis and Incorporation of Public Comments on the Draft EIS

Written comments from individuals, public agencies, and private organizations were received during the Draft EIS comment period. Appendix B of this Final EIS includes the Forest Service responses to those comments. The IDT used the comments received on the Draft EIS to further define the existing issues; identify any new issues; refine the alternatives; consider any new information, additional mitigations, or options; and clarify or update the analysis in the EIS.

Subsistence Hearing

Following publication of the Draft EIS, subsistence hearings were held on December 3, 4, and 5, 2012, in the communities of Thorne Bay, Craig, and Coffman Cove, respectively. The meeting format was similar in all locations. The first portion of the meeting was for discussing the project, and the second portion was for subsistence testimony.

In Thorne Bay, two people attended. They discussed the project with Forest Service representatives but did not have prepared testimony. They said they would send written comments at a later date.

In Craig, two people attended. They discussed the project with Forest Service representatives but did not have prepared testimony.

In Coffman Cove, nine people attended. They discussed the project with Forest Service representatives but did not have prepared testimony.

The comments provided by these individuals during discussions were considered in the subsistence analysis for the Final EIS and are in the project record.

Availability of the Final EIS

The Notice of Availability for this Final EIS is published in the Federal Register and in the Ketchikan Daily News, the official newspaper of record. The Final EIS has been mailed to everyone on the project mailing list. A list of recipients is included in Chapter 4 of the Final EIS. The Final EIS will also be available at the Thorne Bay Ranger District and upon request. This Final EIS is also available electronically at: http://www.fs.fed.us/nepa/nepa_project_exp.php?project=31542

Issues

The IDT used an issue identification process to analyze comments received during scoping. This process was used to ensure that all significant issues were identified, and that all other issues were meaningfully addressed in the analysis. Comments were received from individuals, organizations, State agencies, and other Federal agencies. Each of the 300+ comments received during scoping was considered a potential issue, and was evaluated to determine in which of the following ways the comment was resolved or addressed:

- Determined to be outside the scope of the project (not site-specific)
- Already addressed by Forest Plan Land Use Designations (LUDs), Standards and Guidelines, or BMPs
- Already decided by law, regulation, or other higher-level decision
- Can be resolved through project-specific mitigation
- Can be addressed during processes or impact analyses routinely conducted by the IDT
- Can be addressed through spatial modification of actions during alternative design
- Used to drive or partially drive an alternative
- Support for the project
- Opposition to the project

NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail (40 CFR § 1500.1(b)). This ensures that the analysis and documentation are focused primarily on the issues that are most important to

the Big Thorne project area and the decision to be made. Other concerns, listed under Other Resource Considerations, are listed below and are summarized in Chapter 3.

After analysis of scoping comments, the following four issues were determined by the IDT to be potentially key or significant and within the scope of the project decision. The IDT developed alternatives to the proposed action to address these issues; Chapter 2 of this Final EIS discusses and compares the alternatives. Additional concerns were considered but did not form a basis for an alternative to be analyzed in detail; these concerns are discussed in Chapter 2 under Alternatives Considered but Eliminated from Detailed Analysis.

Units of measure were defined to identify how each alternative responds to a significant issue. Measures were chosen that were quantitative where possible; predictable; responsive to the issue; and linked to cause and effect relationships. These measures describe how the alternative affects the resource or resources central to the issue. The following issues were used for the alternative development for the Big Thorne Project.

Issue 1 – Timber Supply and Timber Sale Economics

Issue statement: *Timber supply and timber sale economics affect the stability of Southeast Alaska's forest products industry and the ability of the industry to contribute to the local and regional economies.*

This issue concerns both the financial efficiency and the salability of the proposed project. It also relates to the potential local employment and revenues generated for communities in the local area. Project design affects the viability of sales and the ability to offer them. Optimizing volume and net return on timber harvest will provide for flexibility over the life of the project and the ability to offer economically viable timber sales across fluctuating market conditions. The amount of timber available for sale from national forests and a stable supply affects local employment and revenues. It is also critical to match the range in the size of sales offered to the range in sizes of industry operators. Operators need economical timber to stay in business and loss of those operators would have an adverse impact on local economies.

Units of Measure

- Timber volume (old growth and young growth) by species
- Acres of harvest by logging system and prescription
- Miles of road construction and reconstruction
- Logging and road costs
- Indicated bid value ($$ per thousand board feet)
- Number of annualized direct jobs

Issue 2 – Old-Growth Habitat LUD Modifications

Issue statement: *Old-Growth Habitat LUD modifications for the small old-growth reserves (OGRs) in Alternative 3 are proposed to expand the suitable timber base within the roaded land base (due to the effect of the Roadless Rule) and in Alternative 4 to*

modify the reserves for the biologically preferred locations within the project area. This may affect the amount and quality of wildlife habitat protected by the small OGRs, the amount and quality of suitable timber available in the project area, and other resources including fisheries, sensitive plants, scenery, and recreation.

Two alternatives were developed and are evaluated that include Old-growth Habitat LUD modifications. As a result, changes were made to the unit pool and the development of the two alternatives that discuss Old-growth Habitat LUD modification.

As a result of these modifications, there are concerns about effects on the old-growth reserve system and the suitable forest land base. Effects on other resources, including fisheries, subsistence uses, sensitive plants, recreation, and scenery, are also of concern. All modifications are limited to the small OGRs; no changes were proposed to medium or large OGRs.

Units of Measure

- LUD acreage changes
- Comparison to Forest Plan Appendices D and K criteria
- Change in Acres and volume suitable for timber production
- Percent of Project Area sensitive plant populations/individuals within OGRs

Issue 3 – Wildlife Habitat and Subsistence Use

Issue statement: *The proposed action combined with past timber harvest would affect old-growth habitat and increase road density, which may affect a range of wildlife, including deer and wolves, and subsistence use of deer.*

Public and agency comments expressed concerns about wildlife and subsistence use in the project area. Concern was noted relative to deer, wolf, goshawk, black bear, marten, and other species. Of special concern are project effects on deer because of their importance to wolves and subsistence users. Because of its proximity to residents of Thorne Bay, Coffman Cove, Klawock, Craig, and Naukati, the Big Thorne project area is considered an important deer hunting area for these communities. The cumulative effects on old-growth habitat associated with additional harvest combined with past harvest and increasing road density were noted concerns.

Units of Measure

- Total, high-volume, and large-tree productive old growth (POG) acres by value comparison unit (VCU), wildlife analysis area (WAA), project area, and biogeographic province
- Connectivity/fragmentation (qualitative analysis of corridors; reduction of POG acres; patch size analysis)
- Road density in miles per square mile (all roads [open and closed]) by WAA below 1,200 feet and for all elevations
- Deer habitat capability by WAA and biogeographic province in deer per square mile

- Deer winter habitat acres harvested by WAA for deep snow conditions
- Goshawk habitat acres harvested by VCU
- Marten deep snow winter habitat acres harvested by WAA (acres) and
- Abundance and distribution of, access to, and competition for known subsistence resources

Issue 4 – Cumulative Watershed Effects

Issue statement: *The proposed action combined with past timber harvest would increase the percentage of each watershed area covered by timber harvest and would increase road densities in each watershed, potentially resulting in higher rates of sedimentation and/or other effects on aquatic habitats.*

Concern was expressed regarding the intensity of past harvest and road construction in the project area, and the potential cumulative effects on watersheds and fish associated with additional harvest. The project area includes a number of streams with high fisheries value.

Units of Measure

- Watersheds with more than 20 percent of basin area in young growth less than or equal to 30 years, including reasonably foreseeable future harvest
- Watersheds with more than 2.5 percent of basin area in roads, including reasonably foreseeable future roads
- Proposed numbers of Class I, II, and III stream crossings

Other Resource Considerations

Other resource concerns are important, but were not used to drive alternative development. A more detailed discussion of these important resources (listed below) and the protection measures used for them can be found in the specialist's resource reports and is summarized in Chapter 3.

- Karst
- Soils
- Climate Change
- Fisheries
- Wetlands
- Botany
- Invasive Species
- Timber and Vegetation
- Transportation
- Heritage

- Recreation
- Scenery
- Inventoried Roadless Areas and Wilderness
- Wild and Scenic Rivers
- Socioeconomics
- Environmental Justice

Relationship to the Forest Plan

The Forest Plan is an extensive forest-level analysis. It provides land and resource management direction for the Tongass National Forest. The Big Thorne Project analysis and subsequent implementation is designed to achieve the management direction of the Forest Plan as outlined in the purpose and need statement.

The Big Thorne Project Final EIS is a project-level analysis; its scope is confined to addressing the significant issues and possible environmental effects of the project. It does not attempt to address decisions made at higher levels. However, it does implement direction provided at those higher levels. Where appropriate, the Big Thorne Final EIS tiers to the Forest Plan Final Environmental Impact Statement (FEIS), as encouraged by 40 CFR 1502.20.

Forest Plan Land Use Designations

The Forest Plan uses LUDs to guide the management of NFS lands within the Tongass. Each designation provides for a unique combination of activities, practices and uses. The Big Thorne project area includes seven LUDs, shown in Figure 1-2 and in Table 1-1. The goals and other aspects of each LUD are summarized below. Chapter 3 of the Forest Plan contains a detailed description of each LUD. Figure 1-2 also shows the locations of inventoried roadless areas, as mapped for the 2001 Roadless Rule, in relation to project area LUDs. Forest Service regulations limit road construction and timber removal within these inventoried roadless areas.

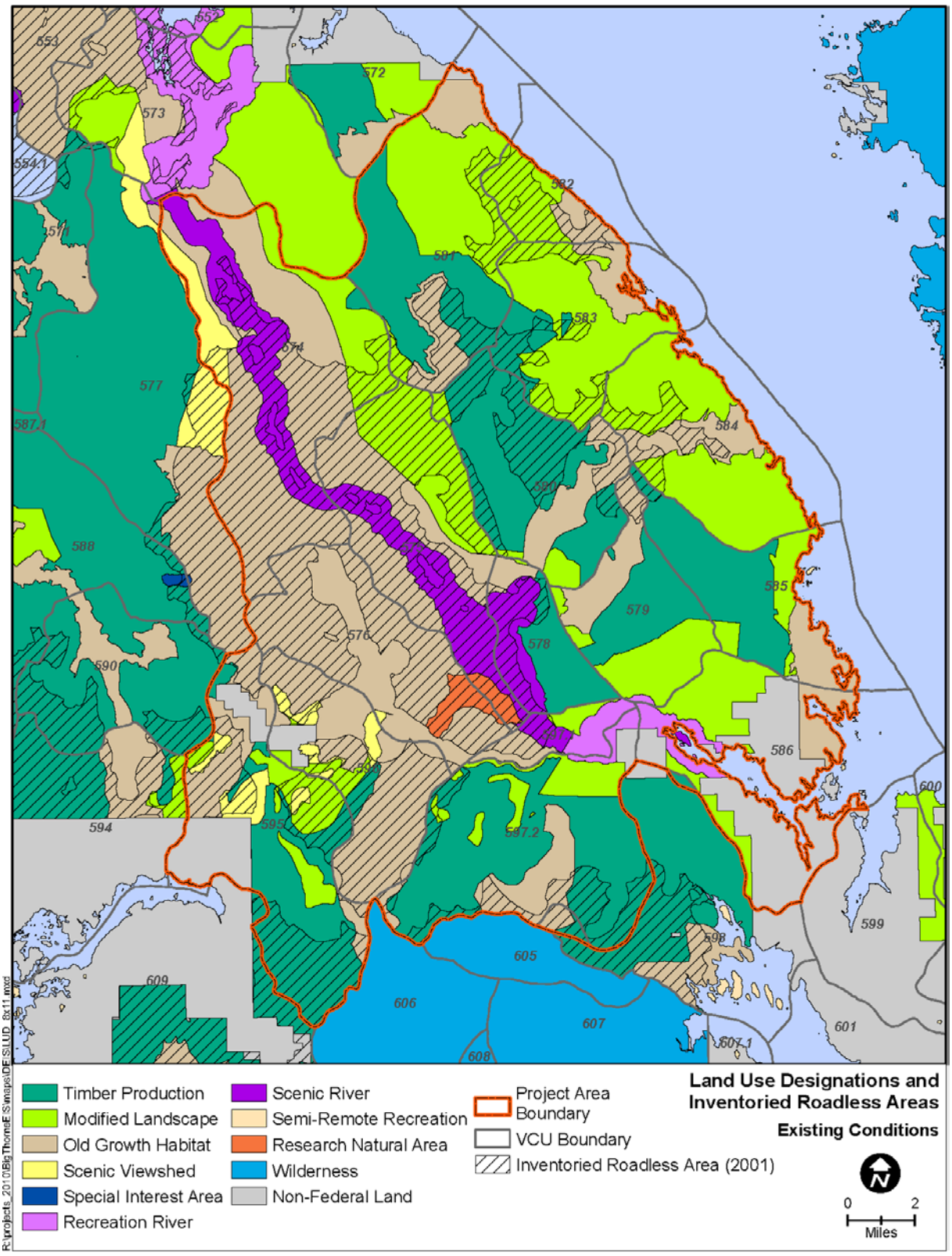

Figure 1-2. Big Thorne Project Area Land Use Designations and Inventoried Roadless Areas – Existing Conditions

Table 1-1. Forest Plan Land Use Designations and Acreages in the Project Area

Land Use Designation (LUD)	Acres	Percentage of Project Area
Non-Development LUDs [1/]		
Research Natural Area	1,621	1%
Old-growth Habitat	74,949	32%
Scenic River	14,180	6%
Recreational River	2,932	1%
Subtotal	**93,682**	**40%**
Development LUDs [2/]		
Timber Production	60,686	26%
Modified Landscape	58,885	25%
Scenic Viewshed	4,426	2%
Subtotal	**123,997**	**54%**
Total NFS Lands	**217,679**	**94%**
Non-NFS Lands	**14,169**	**6%**
Total (NFS + Non-NFS) Lands	**231,848**	**100%**

[1/] Non-development LUDs generally do not permit timber harvest or road construction.
[2/] Development LUDs allow timber harvest and road construction under certain conditions.

Research Natural Area LUD

The project area includes the Rio Roberts Research Natural Area (RNA), which covers 1 percent of the project area. This RNA was established in 1997 and is adjacent to the Thorne River Scenic River LUD. The focus of this LUD is to preserve areas of ecological importance in their natural condition for the purposes of research, monitoring, education, and/or to maintain natural diversity. Harvest is not proposed in this LUD.

Old-growth Habitat LUD

Approximately 32 percent of all lands in the project area is allocated to the Old-growth Habitat LUD. This allocation is represented by 10 small OGRs and the Honker Divide large OGR. The focus of this LUD is to maintain areas of old-growth forests and their associated natural ecological processes to provide habitat for old-growth associated resources. See pages 3-57 through 3-62 of the Forest Plan for an expanded description of this LUD. Harvest is not proposed in this LUD; however, boundary adjustments of small OGRs are proposed under two alternatives, and some areas, currently in the OGRs, are part of the unit pool for those alternatives and would be harvested. In addition, some thinning is proposed in specific young-growth stands.

Scenic River LUD

Approximately 6 percent of the project area is allocated to the Scenic River LUD along the Thorne River-Hatchery Creek corridor. The focus of this LUD is to manage river segments, recommended by the Forest Plan for Scenic River designation, to maintain their outstandingly remarkable values and classification eligibility until Congress designates the segments or decides not to designate them. Timber harvest on suitable forest land is allowed if adjacent lands are being managed for that purpose. See pages 3-81 through 3-87 of the Forest Plan for an expanded description of this LUD. No timber harvest is proposed in this LUD.

Recreational River LUD

Approximately 1 percent of the project area is allocated to the Recreational River LUD along the lower Thorne River. The focus of this LUD is to manage river segments, recommended by the Forest Plan for Recreational River designation, to maintain their outstandingly remarkable values and classification eligibility until Congress designates the segments or decides not to designate them. Timber harvest on suitable forest land is allowed if adjacent lands are being managed for that purpose, with consideration given to scenery. See pages 3-88 through 3-94 of the Forest Plan for an expanded description of this LUD. Most of the Recreational River LUD in the project area meets the adjacent LUD criterion. As a result, some timber harvest is proposed in this LUD.

Timber Production LUD

The Timber Production LUD makes up approximately 26 percent of the project area. The focus of the Timber Production LUD is to emphasize sustained, long-term timber production. Timber harvest activities are located and designed to meet timber objectives. See pages 3-116 through 3-121 of the Forest Plan for an expanded description of this LUD. Harvest is proposed in this LUD.

Modified Landscape LUD

Approximately 25 percent of the project area is allocated to the Modified Landscape LUD. Management within this LUD focuses on sustained, long-term timber production while minimizing the visibility of development in the foreground distance zone. This recognizes the scenic values of forested lands as viewed from identified Visual Priority Travel Routes and Use Areas (Forest Plan, Appendix F) and provides for modifying timber harvest practices accordingly by reducing the effects to scenery. See pages 3-109 through 3-115 in the Forest Plan for an expanded description of this LUD. Harvest is proposed in this LUD.

Scenic Viewshed LUD

Approximately 2 percent of the project area is allocated to the Scenic Viewshed LUD. Management within this LUD focuses on providing a sustainable yield of timber and a mix of resource activities while minimizing the visibility of developments as seen from Visual Priority Routes and Use Areas (Forest Plan, pages 3-101 through 3-108). Harvest is proposed in this LUD.

Timber Sale Program Adaptive Management Strategy

In an effort to balance competing demands for timber production and preservation of undeveloped areas, the Timber Sale Program Adaptive Management Strategy was approved in the 2008 Forest Plan Record of Decision (USDA Forest Service 2008b). Under this strategy, the operation of the timber sale program will be implemented in three phases, as determined by actual timber harvest levels. The majority of the project area suitable lands are identified as Phase 1 lands. Phase 1 includes most of the roaded portion of the allowable sale quantity (ASQ) land base, along with most of the lower value

inventoried roadless areas. The Phase 1 portion of the land base could sustain a level of timber harvest of about 150 MMBF. The scheduled timber sale program will generally be confined to this land base until such time as the level of timber harvest reaches at least 100 MMBF for 2 consecutive years. Until that time, personal use of timber, micro sales, salvage sales, small commercial timber sales generally less than 1 MMBF, young-growth management projects, and the roads associated with these activities, would be allowed in development LUDs outside of the Phase 1 portion of the ASQ land base within Phase 2 lands.

Up to 1,014 acres of timber harvest is being considered for Phase 2 lands (see Chapter 3, Table TSE-11). This acreage would be used for micro, small, and salvage sales and potentially a larger sale, if the 100 MMBF threshold is achieved for 2 consecutive years. The Phase 2 areas include the Timber Production LUD portion of VCU 5780, which occupies an area of land along the southeastern edge of the Honker Divide large OGR and the eastern edge of the Scenic River LUD along the Thorne River, the Modified Landscape LUD of VCU 5750 along the east side of the Thorne River Scenic River, and a very small patch of VCU 5760 near Control Lake at the south end of the large OGR, which is Scenic Viewshed LUD. None of the areas proposed for harvest in either Phase 1 or Phase 2 lands are in 2001 inventoried roadless areas.

Other Related Efforts

Stewardship Opportunities in the Project Area

Under Section 323 of Public Law 108-7, the Forest Service has been granted authority, until September 30, 2013, to enter into stewardship contracting projects. Stewardship contracting helps achieve land management goals while meeting local and rural community needs, including contributing to the sustainability of rural communities and providing a continuing source of local income and employment. Direction specific to stewardship planning can be found in Forest Service Handbook 2409.19 Chapter 60.

Stewardship contracting in conjunction with timber harvest can be used to fund restoration and enhancement projects. The Forest has identified potential stewardship projects that have been or will be analyzed separately under the NEPA process. However, the cumulative effects of these reasonably foreseeable restoration and enhancement projects have been considered in this analysis for resources if within the analysis area for a resource.

On May 26, 2011, the Regional Forester approved the Big Thorne project area as a stewardship area. The restoration and enhancement activities were identified through other planning and landscape assessments efforts including, but not limited to, the Cobble Landscape Assessment, Luck Lake Watershed Restoration Plan, and the Prince of Wales and Surrounding Islands Access Travel Management Plan, which had environmental analysis completed in 2011. Appropriate environmental analysis for the other projects will be done, as necessary, prior to inclusion in a stewardship contract.

Examples of restoration and enhancement opportunities include (but are not limited to) roads and transportation activities (e.g., repairing ‘‘red pipes’’ or bridges, erosion control,

noxious weed control, young-growth stand improvement, and wildlife and fisheries habitat improvement projects, e.g., beach fringe thinning, or placement of large woody debris [LWD] in streams).

Potential restoration and enhancement projects that are currently being considered in the project area include:

Potential Pre-commercial Thinning in the Project Area

A standard spacing designed to enhance timber production and wildlife habitat will be prescribed for thinning young stands approximately 30 years or younger. This will result in the retention of approximately 222 trees per acre. In most stands, both Alaska yellow-cedar and western redcedar will be given preference for retention over Sitka spruce and western hemlock. Within non-development LUDs, beach fringe, and other areas where timber production is not an objective, treatments will usually be more variable and designed primarily to increase stand diversity and wildlife habitat as well as promote the development of old-growth forest structure. About 8,455 acres of thinning that emphasizes wildlife habitat improvement and 3,850 acres of pre-commercial thinning for timber production will be done.

Transportation System Projects

- Road storage identified in the Prince of Wales Access Travel Management Plan (POW ATM). Road storage will remove or mitigate structures at risk of failure and will perform deferred maintenance.
- Replace stream crossing structures that are currently classed as red fish pipes, where passage for various life stages of fish may not be possible.

Stream Restoration Projects

In-stream placement of up to 1,200 pieces of woody debris throughout 2.5 miles of stream channels in the lower Luck Creek tributary system.

Relationship to the Access Travel Management Plan

The Big Thorne EIS incorporates by reference the Environmental Assessment for the POW ATM (USDA Forest Service 2009a). The POW ATM project considered the access management objectives for the existing NFS roads for the entire Prince of Wales Island. The Big Thorne Project considers the road management recommendations for the existing NFS roads and any proposed NFS roads needed to access timber for the Big Thorne project area, as described in Chapter 3. The Big Thorne Project also analyzes the temporary roads needed for timber access.

Currently, the road management objectives for the existing NFS roads within the Big Thorne project area are the same as in the POW ATM and have been analyzed that way. Analyses conducted for the POW ATM Environmental Assessment have been used for the Big Thorne Project, as noted in this EIS, and included in the project record.

Applicable Laws and Executive Orders

Shown below is a partial list of Federal laws and executive orders pertaining to project-specific planning and environmental analysis on Federal lands. While most pertain to all Federal lands, some of the laws are specific to Alaska.

- Alaska Native Claims Settlement Act of 1971
- Alaska National Interest Lands Conservation Act of 1980
- American Indian Religious Freedom Act of 1978
- Archeological Resource Protection Act of 1980
- Bald and Golden Eagle Protection Act of 1940 (as amended)
- Cave Resource Protection Act of 1988
- Clean Air Act of 1970 (as amended)
- Clean Water Act of 1977 (as amended)
- Coastal Zone Management Act of 1972 (as amended)
- Endangered Species Act of 1973 (as amended)
- Executive Order 11593 (cultural resources)
- Executive Order 11988 (floodplains)
- Executive Order 11990 (wetlands)
- Executive Order 12898 (environmental justice)
- Executive Order 12962 (aquatic systems and recreational fisheries)
- Executive Order 13007 (Indian sacred sites)
- Executive Order 13112 (Invasive Species)
- Executive Order 13175 (government-to-government consultation)
- Executive Order 13443 (hunting heritage and wildlife conservation)
- Forest and Rangeland Renewable Resources Planning Act of 1974 (as amended)
- Magnuson-Stevens Fishery Conservation and Management Act of 1996
- Marine Mammal Protection Act of 1972
- Migratory Bird Treaty Act of 1918 (amended 1936 and 1972)
- Multiple-Use Sustained-Yield Act of 1960
- Native American Graves Protection and Repatriation Act of 1990
- National Environmental Policy Act of 1969 (as amended)
- National Forest Management Act of 1976 (as amended)
- National Historic Preservation Act of 1966 (as amended)

- National Invasive Species Act of 1996
- National Transportation Policy (2001)
- Organic Act of 1897
- Roadless Rule of 2001
- Rivers and Harbors Act of 1899
- Tongass Timber Reform Act of 1990
- Wild and Scenic Rivers Act of 1968, amended 1986

Availability of the Project Record

An important consideration in preparing this Final EIS is reduction of paperwork specified in 40 CFR 1500.4. This Final EIS provides sufficient site-specific information to demonstrate a reasoned consideration of the environmental impacts of the alternatives and ways to mitigate the impacts. The project record contains supporting material that documents the NEPA process and analysis from the beginning of the project through project implementation.

An electronic version of the project record can be obtained by contacting the Thorne Bay Ranger District office, Thorne Bay, Alaska (907-828-3304). Reference documents, such as the Forest Plan and the TTRA, are available for review at public libraries and Forest Service offices throughout Southeast Alaska, including the Forest Supervisor's Office in Ketchikan. The Forest Plan and its Final EIS are also available on CD-ROM and on the Internet (http://tongass-fpadjust.net/).

Map and Number Qualification

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In addition, the accuracy of calculations made from GIS layers varies with the quality of the mapping itself. Numbers presented in tables in this document may not sum correctly due to rounding. Other slight anomalies due to rounding may also occur. Therefore, all numbers should be considered as approximate.